R E P O R T R E S U M E S

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THE PREPARATION OF CURRICULUM MATERIALS AND THE DEVELOPMENT OF TEACHERS FOR AN EXPERIMENTAL APPLICATION OF THE CLUSTER CONCEPT OF VOCATIONAL EDUCATION AT THE SECONDARY SCHOOL LEVEL, PHASE II. CLUSTER CONCEPT PROJECT. THIRD QUARTERLY REPORT.

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DESCRIPTORS- *EXPERIMENTAL PROGRAMS, *TRADE AND INDUSTRIAL EDUCATION, HIGH SCHOOLS, *CURRICULUM DEVELOPMENT, *OCCUPATIONAL CLUSTERS, TEACHER EDUCATION, TRADE AND INDUSTRIAL TEACHERS, SUMMER WORKSHOPS, TEACHING GUIDES, CLUSTER CONCEPT PROJECT,

PROJECT OBJECTIVES FOR THE THIRD QUARTER, MARCH-JUNE 1967, WERE TO CONDUCT A TEACHER PREPARATION PROGRAM DURING THE SPRING SEMESTER AND TO DEVELOP THE TEACHER PREPARATION PROGRAM FOR A SUMMER WORKSHOP. ACTIVITIES RELATING TO THE FIRST OBJECTIVE INCLUDED DEVELOPING INSTRUCTIONAL PLANS FOR IMPLEMENTING PILOT PROGRAMS, ACQUAINTING TEACHERS WITH INSTRUCTIONAL MATERIALS AND EQUIPMENT, AND ARRANGING THE CONTENT FOR EACH CLUSTER IN AN INSTRUCTIONAL SEQUENCE. THE SUMMER WORKSHOP WOULD INCLUDE DEVELOPING NEEDED SKILLS AND KNOWLEDGES, DEVELOPING THE CAPABILITY OF USING VARIOUS TEACHING METHODS, AND PREPARING INSTRUCTIONAL MATERIALS FOR USE IN EACH OF THE OCCUPATIONAL CLUSTERS. A SAMPLE INSTRUCTION PLAN SHOWS HUMAN REQUIREMENTS, TEACHING METHODS, INSTRUCTIONAL MATERIALS, STUDENT ACTIVITIES, AND EVALUATION PROCEDURES. TENTATIVE SCHEDULES FOR THE SUMMER WORKSHOP ARE GIVEN FOR THE CONSTRUCTION CLUSTER, THE METAL FORMING AND FABRICATION CLUSTER, AND THE ELECTRO-MECHANICAL INSTALLATION AND REPAIR CLUSTER. RELATED DOCUMENTS ARE VT 002 165, VT 002 166, VT 002 167, VT 002 491, AND VT 003 254. (EM)

The Preparation of Curriculum Materials and the Development of Teachers for an Experimental Application of the Cluster Concept of Vocational Education at the Secondary School Level

Third Quarterly Report
Phase II of the
Cluster Concept Project
Conducted by
The Industrial Education Department
University of Maryland
College Park, Maryland
1966 - 1967

QUARTERLY REPORT

THE PREPARATION OF CURRICULUM MATERIALS AND THE DEVELOPMENT OF TEACHERS FOR AN EXPERIMENTAL APPLICATION OF THE CLUSTER CONCEPT OF VOCATIONAL EDUCATION AT THE SECONDARY SCHOOL LEVEL.

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PHASE II

CLUSTER CONCEPT PROJECT

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INTRODUCTION

This third quarterly report presents the progress of the Cluster Concept Project, Phase II: "The Preparation of Curriculum Materials and the Development of Teachers for an Experimental Application of the Cluster Concept of Vocational Education at the Secondary School Level" for the period March 1, 1967 to June 1, 1967. The first section of the report summarizes the progress made during the first two quarters, while the remaining sections present the progress made during the third quarter of the project.

SUMMARY OF THE FIRST TWO QUARTERS

During the first two quarters of the project, work was completed in the following areas: (1) the selection of teachers for implementing pilot cluster concept programs; (2) the initiation of a teacher preparation program; (3) contacting representatives in various business and industrial organizations to obtain information and materials for the teacher preparation programs.

The following procedures were established and carried out during the first two quarters of the project to select the teachers for the program.

1. The industrial education supervisors in the counties of Prince Georges, Montgomery, Frederick, and Washington recommended a group of teachers for possible participation in the program.

2. An interview was conducted with each teacher using a formal interview schedule to obtain information concerning teaching competencies.

3. The Rokeach Dogmatism Scale was administered to the teachers to obtain an indication of an individual's cognitive rigidity and flexibility.

4. A panel of individuals, consisting of the county industrial education supervisors, the assistant director of vocational education for Maryland, the principal investigator and the project coordinator reviewed the data collected for each prospective teacher and selected eleven teachers for participation in the program.

A teacher preparation program was initiated at the beginning of the spring semester. The first sessions of the program were spent orienting the participants to the project, developing the ability to write behavioral objectives, and identifying information to be included in an instructional plan.

ACTIVITIES OF THE THIRD QUARTER

The following objectives and activities were completed during the third quarter of the project.

Objective 1: Conducting the teacher preparation program during the spring semester.

The teachers participating in the program were meeting one night a week during the spring semester. The teachers from Montgomery County and Prince Georges County met on Tuesday evenings at the University of Maryland. The teachers from Frederick County and Washington County met on Thursday evenings at Middletown High School located in Frederick County.

The activities of the teacher preparation program during the spring semester included: (1) development of instructional plans for implementing pilot programs; (2) acquainting teachers with instructional materials and equipment that may be used in the pilot programs; and (3) arranging the content for each cluster in an instructional sequence. A schedule of teacher preparation program is shown below.

TEACHER PREPARATION PROGRAM SCHEDULE

Cluster Concept Project
Industrial Education Department
University of Maryland

DATE	ACTIVITIES	ASSIGNMENT DUE
Session #1 Feb. 7,9	•Welcome and Introduction. •Analyses of a task.	
Session #2 Feb. 14,16	•State areas of human requirement in behaviorial terms. •Write areas of human requirement in behaviorial terms for task	Single task analysis.
Session #3 Feb. 21,23	•Receive outline of Insturctional Units for assigned cluster. •Begin developing Unit #1	Areas of human requirement in behaviorial terms for task.
Session #4 Feb. 28 Mar. 2	•Class demonstration - E.F.I. •Developing information for Instructional Program #1.	
Session #5 Mar. 7,9	•Review conference on material developed for Instructional Program #1.	Instructional Program #1 due.
Session #6	•Class demonstration - Video Tape, demonstration and application. •Developing information for Instructional Program #2.	
Session #7 Mar. 21,23	•Review conference on material developed for Instructional Program #2.	Instructional Program #2 due.

DATE	ACTIVITIES	ASSIGNMENT DUE
Session #8 Mar. 28,30	•Developing information for Instructional Program #3.	
Session #9 Apr. 4,6	•Class Demonstration - 3 M •Review conference on material developed for Instructional Program #3.	Instructional Program #3 due.
Session #10 Apr. 11,13	•Developing information for Instructional Program #4.	
Session #11 Apr. 18,20	•Class demonstration - Perceptual Development Laboratory - Percepto Scope. •Review conference on material developed for Instructional Program #4.	Instructional Program #4 due.
Session #12 Apr. 25,27	•Class demonstration - Welch Scientific Company - Autotutor. •Developing information for Instructional Program #5.	
Session #13 May 2,4	•Review conference on material developed for Instructional Program #5.	Instructional Program #5 due.
Session #14 May 9, 11	•Coordinating conference for all teachers at University of Maryland.	
Session #15 May 18,	•Final evaluation conference at University of Maryland.	Instructional Program #6 due.

The instructional plans for each cluster were developed by the teachers participating in the program. Each teacher selected one of the occupations in the cluster and developed an instructional plan based on the tasks and areas of human requirement identified during the first phase of the project. The areas of human requirement were arranged in a suggested instructional sequence for each task in the occupation.

The teaching methods, instructional materials, student activities, and methods of evaluation were then identified for each area of human requirement. An example of a completed instructional plan is shown in Figure 1. The completed plans for each task were then arranged in an instructional sequence for the three occupational clusters.

Demonstrations of instructional materials and devices were presented to the teachers by representatives of various industries. These sessions provided the teachers with an opportunity to explore possible applications of the devices in pilot cluster concept programs. The presentations are listed in the schedule shown in Appendix A.

Objective 2: Developing the teacher preparation program for the summer workshop.

A schedule of activities is being developed for the six-week summer session beginning June 26 and ending August 4, 1967. During this period of time, major emphasis will be placed on: (1) the development of needed skills and knowledges for each teacher, (2) developing the capability of using various teaching methods, and (3) preparing instructional materials for use in each of the occupational clusters.

A teacher experience inventory was completed by each teacher to determine additional experiences needed to successfully teach Level I job entry tasks of the cluster concept program. An example of this inventory is shown in Appendix B. The completed inventories were reviewed to identify the experiences required to obtain teacher proficiency in each occupational cluster. The information obtained from the review of inventories was used in developing a schedule for the summer session. Members of the project team contacted several government and industrial organizations for aid in establishing a cooperative program to prepare

Figure 1. Sample Instructional Plan

TASK 1: TURNING STOCK ON LATHE TO PRODUCE A FACED SURFACE

Area of Human Requirement	Suggested Teaching Methods	Suggested Instructional Materials	Suggested Student Activities	Suggested Evaluation Procedures
Reading a blueprint to determine the: a. Kind of material b. Size of work c. Characteristics of work d. Number of parts to be machined e. Kind of material	Demonstration: Video-tape recorders. Film.	Tools: Scale Materials: Blueprints Blueprint Reading for Beginners In Machine Shop Practice, Delmar Publishers, Inc., pp. 1-4. Film: "The Metal Worker," 29 min., free, B. & W, Modern Talking Picture Service.	Class: Reading blueprints while teacher explains. Viewing a film. Assignment: Reading unit #3, Metalwork Technology and Practice, Ludwig, pp. 27-33.	Observing students in selecting material and laying out stock. Paper and pencil test on items in film. Checking answer booklet to programmed test.
Explaining the physical properties of the machinability of various metals. Explaining gear and pulley drive ratios. Explaining heat transfer as it relates to coolants.	Video-tape recorders. Lecture.	Tools: Lathe Materials: Engine Lathe Operations, Whipple and Baudek, Unit 28, pp. 44-48. Lathe Work, Delmar Publishers, Inc., Engine Lathe Operations, Whippel and Baudek, Unit 27, pp. 43-45.	Class: Listening to teacher's explanation on machinability of various metals, gear and pulley drive ratios and heat transfer as it relates to coolants. Assignment: Reading unit 82, General Introduction to Machine Shop, Johnson, pp. 337-339. Reading Chapter II, Machine Tool Operator Part I, Burghardt, pp. 36-49.	Checking students on assignments.
Measuring stock with a rule scale to determine length.	Demonstration	Tools: Rule or Scale Materials: Stock to be measured.	Class: Measuring stock with a rule or scale to determine length. Assignment: Reading unit 6, General Introduction to Machine Shop, Johnson, pp. 70-73.	Observing students in measuring stock with a scale or rule to determine length.
Comparing fractional equivalents of decimals. Computing automatic feed for various metals. Computing cutting speeds for various metals. Applying knowledge of fractional parts of an inch. Applying knowledge of decimals.	Lecture	Tools: Chalk and chalkboard Materials: Shop Arithmetic Delmar Publishers, Inc., Albany 1, New York.	Class: Computing fractional equivalents of decimals, automatic feed and cutting speeds for various metals. Applying knowledge of fractional parts of an inch and applying knowledge of decimals. Assignment: Shop Arithmetic, Delmar Publishers, Inc., unit II, pp. 24-25.	Checking students with a written test.

Figure I (continued)

Area of Human Requirement	Suggested Teaching Methods	Suggested Instructional Materials	Suggested Student Activities	Suggested Evaluation Procedures
Selecting proper layout tools: Selecting appropriate hacksaw blades. Selecting method of holding stock to be machined. Protecting V-ways with wood when mounting chucks. Selecting proper facing tool for job. Selecting methods of holding cutting tools.	Demonstration: Film & demonstration Video-tape recorder	Tools: Lathe with necessary equipment. Materials: Scale, hacksaw, wood facing tool, tool holder, brush, rag, safety goggles, cutting oils, file, and abrasive cloth.	Class: Selecting proper layout tools, hacksaw blades, method of holding stock, protecting V-ways, facing tool, methods of holding cutting tools, cutting speeds, direction of cut.	Observing students selecting proper tools and equipment to perform task.
Selecting from a chart correct cutting speeds for various metals. Selecting direction of cut. Removing and disposing of chips to keep work area clear and free from danger. Practicing proper safety precautions when operating a lathe. Selecting proper cutting fluids for various metals. Selecting proper type of file. Selecting abrasive cloth for removing burrs.	Film & demonstration	Im: "Plain Turning," 20 min., free, B & W, South Bend Lathe.	Removing and disposing of chips, safety precaution, cutting fluids, file and abrasive cloth. Assignment: Selecting proper tools and equipment to perform task.	
Laying out stock with a: a. Rule or scale b. Scriber Cutting stock to length with: a. Hand saw b. Power hacksaw c. Power bandsaw	Demonstration: Video-tape recorder.	Tools: Lathe Materials: Engine Lathe Operations, Whipple and Baudek, Units 5,6,7, 8,9, pp. 16-21.		

Figure I (continued)

Area of Human Requirement	Suggested Teaching Methods	Suggested Instructional Materials	Suggested Student Activities	Suggested Evaluation Procedures
Mounting: a. Chuck b. Collect c. Face plate, in-on lathe Clearing machine to obtain accurate set up. Mounting sotck on the lathe with: Mounting facing tool in holder and tool post and adjust point. Adjusting controls to obtain proper spindle speed. Adjusting controls to obtain proper food. Setting depth of cut for roughing cut. Applying cutting fluids to lubricate cutting action and reduce cutting temperature. Operate lathe to produce a flat surface. Setting depth of cut for finish cut.	Demonstration and Film	Tools: Lathe Materials: Lathe Work, Delmar Publishers, Inc., pp. 106-107.	Class: Setting up and turning stock on lathe to produce a faced surface. Assignment: Reading unit #43, Engine Lathe Operations, Whipple and Baudek, pp. 72-73. Answer questions on page 73.	Observing student performance. Checking students with a written test.
Removing work from holding devices. Removing burrs from finished work with: a. File b. Abrasive cloth	Demonstration and Film			

teachers with the needed skills and knowledge to implement the pilot cluster concept programs. Tentative arrangements have been made with the Fabrication Division of Goddard Space Flight Center, Westinghouse, Remington-Rand, and the Associated Builders and Contractors, Incorporated to provide the required skill and knowledge development for the teachers. A copy of the tentative summer schedule for each cluster is shown in Figures 2, 3, and 4.

PROPOSED ACTIVITIES FOR THE FOURTH QUARTER

During the fourth quarter of the project, a six-week summer session will be conducted for the teachers. The session will begin June 26 and end August 4, 1967. A program will be completed by each teacher with respect to: (1) development of required skills and knowledges for Level I tasks; (2) development of instructional materials; and (3) development of occupational information units.

An evaluation procedure will be formulated to obtain an indication of the teachers' competency in performing Level I tasks. Each teacher will be evaluated in terms of his ability to perform those tasks considered to be limited and inadequate in his previous occupational and teaching experience.

Figure 2. Tentative Schedule Construction Cluster Teachers

JUNE 26 REGISTRATION	27 DEVELOPMENT OF OCCUPATIONAL INFORMATION 8:00 - 12:00 DEVELOPMENT OF INSTRUCTIONAL MATERIALS 1:00 - 5:00	28 DEVELOPMENT OF OCCUPATIONAL INFORMATION 8:00 - 12:00 DEVELOPMENT OF INSTRUCTIONAL MATERIALS 1:00 - 5:00	29 TRAINING SESSION ASSOCIATED BUILDERS AND CONTRACTORS - PLUMBING JOB SITE 8:00 - 5:00	30 TRAINING SESSION ASSOCIATED BUILDERS AND CONTRACTORS - PLUMBING JOB SITE 8:00 - 5:00
JULY 3 TRAINING SESSION HOMEBUILDERS LABORATORIES ROCKVILLE, MARYLAND 8:00 - 5:00	4 HOLIDAY	5 UNIVERSITY OF MARYLAND CAMPUS BUILDING PROJECTS: CHEMISTRY BLDG., DORMITORY, CYLATRON 1:00 - 5:00	6 DEVELOPMENT OF UNIFYING PROJECTS FOR USE IN INSTRUCTION 8:00 - 5:00	7 TRAINING SESSION UNITED ASSOCIATION OF PLUMBERS AND PIPEFITTERS DEVELOPMENT OF PLUMBING TRAINING AIDS 8:00 - 5:00
10 TRAINING SESSION ASSOCIATED BUILDERS & CONTRACTORS MASONRY JOB SITE 8:00 - 5:00	11 TRAINING SESSION ASSOCIATED BUILDERS & CONTRACTORS MASONRY JOB SITE 8:00 - 5:00	12 DRAWING PLANS FOR UNIFYING PROJECTS FOR USE IN INSTRUCTION 8:00 - 5:00	13 DRAWING PLANS FOR UNIFYING PROJECTS FOR USE IN INSTRUCTION 8:00 - 5:00	14 ASSOCIATED BUILDERS & CONTRACTORS PAINTING JOB SITE 8:00 - 5:00
17 TECHNIFAX WORKSHOP 8:00 - 5:00	18 TECHNIFAX WORKSHOP 8:00 - 5:00	19 TECHNIFAX WORKSHOP 8:00 - 5:00	20 INDIVIDUAL INDUSTRIAL VISITATIONS	21 INDIVIDUAL INDUSTRIAL VISITATIONS
24 TRAINING SESSION ASSOCIATED BUILDERS & CONTRACTORS CARPENTRY JOB SITE 8:00 - 5:00	25 TRAINING SESSION ASSOCIATED BUILDERS & CONTRACTORS CARPENTRY JOB SITE 8:00 - 5:00	26 DEVELOPING INSTRUCTIONAL MATERIALS 8:00 - 12:00	27 TRAINING SESSION ASSOCIATED BUILDERS & CONTRACTORS ELECTRICAL JOB SITE	28 TRAINING SESSION ASSOCIATED BUILDERS & CONTRACTORS ELECTRICAL JOB SITE
31 DRAWING PLANS FOR UNIFYING PROJECTS FOR USE IN INSTRUCTION	AUGUST 1 DRAWING PLANS FOR UNIFYING PROJECTS FOR USE IN INSTRUCTION	2 MAKING BLUEPRINTS FOR EACH TEACHER OF THE SUGGESTED UNIFYING PROJECTS	3 COMPLETE DEVELOPMENT OF OCCUPATIONAL INFORMATION	4 EVALUATION

Figure 3. Tentative Schedule Metal Forming and Fabrication Cluster Teachers

JUNE 26 REGISTRATION	27 DEVELOPMENT OF OCCUPATIONAL INFORMATION 8:00 - 12:00 DEVELOPMENT OF INSTRUCTIONAL MATERIALS 1:00 - 5:00	28 DEVELOPMENT OF OCCUPATIONAL INFORMATION 8:00 - 12:00 DEVELOPMENT OF INSTRUCTIONAL MATERIALS 1:00 - 5:00	29 DEVELOPMENT OF INSTRUCTIONAL MATERIALS 1:00 - 5:00	30 DEVELOPMENT OF INSTRUCTIONAL MATERIALS
JULY 3	4 HOLIDAY	5 WELDING WORKSHOP 8:00 - 5:00	6 WELDING WORKSHOP 8:00 - 5:00	7 WELDING WORKSHOP 8:00 - 5:00
10 NASA WORKSHOP 8:00 - 5:00	11 NASA WORKSHOP 8:00 - 5:00	12 NASA WORKSHOP 8:00 - 5:00	13 NASA WORKSHOP 8:00 - 5:00	14 NASA WORKSHOP 8:00 - 5:00
17 TECHNIFAX WORKSHOP 8:00 - 5:00	18 TECHNIFAX WORKSHOP 8:00 - 5:00	19 TECHNIFAX WORKSHOP 8:00 - 5:00	20 INDIVIDUAL INDUSTRIAL VISITATIONS	21 INDIVIDUAL INDUSTRIAL VISITATIONS
24 ASSEMBLY WORKSHOP 8:00 - 5:00	25 ASSEMBLY WORKSHOP 8:00 - 5:00	26 DEVELOPMENT OF INSTRUCTIONAL MATERIALS 8:00 - 12:00	27 DEVELOPMENT OF INSTRUCTIONAL MATERIALS 8:00 - 12:00	28
31	AUGUST 1	2	3	4 EVALUATION

Figure 4. Tentative Schedule Electro-Mechanical Installation and Repair Cluster Teachers

JUNE 26 REGISTRATION	27 DEVELOPMENT OF OCCUPATIONAL INFORMATION 8:00 - 12:00 DEVELOPMENT OF INSTRUCTIONAL MATERIALS 1:00 - 5:00	28 DEVELOPMENT OF OCCUPATIONAL INFORMATION 8:00 - 12:00 DEVELOPMENT OF INSTRUCTIONAL MATERIALS 1:00 - 5:00	29 WESTINGHOUSE TRAINING AIR CONDITIONING 8:00 - 12:00 DEVELOPMENT OF INSTRUCTIONAL MATERIALS 1:00 - 5:00	30 WESTINGHOUSE TRAINING APPLIANCES 8:00 - 12:00 DEVELOPMENT OF INSTRUCTIONAL MATERIALS 1:00 - 5:00
JULY 3 WESTINGHOUSE TRAINING AIR CONDITIONING 8:00 - 12:00 DEVELOPMENT OF INSTRUCTIONAL MATERIALS 1:00 - 5:00	4 HOLIDAY	5 WESTINGHOUSE TRAINING APPLIANCES 8:00 - 12:00 DEVELOPMENT OF INSTRUCTIONAL MATERIALS 1:00 - 5:00	6 WESTINGHOUSE TRAINING APPLIANCES 8:00 - 12:00 DEVELOPMENT OF INSTRUCTIONAL MATERIALS 1:00 - 5:00	7 WESTINGHOUSE TRAINING APPLIANCES 8:00 - 12:00 DEVELOPMENT OF INSTRUCTIONAL MATERIALS 1:00 - 5:00
10 RCA TRAINING TELEVISION 8:00 - 5:00	11 RCA TRAINING TELEVISION 8:00 - 5:00	12 RCA TRAINING TELEVISION 8:00 - 12:00 DEVELOPMENT OF INSTRUCTIONAL MATERIAL 1:00 - 5:00	13 RCA TRAINING TELEVISION 8:00 - 12:00 DEVELOPMENT OF INSTRUCTIONAL MATERIAL 1:00 - 5:00	14 RCA TRAINING TELEVISION 8:00 - 12:00 DEVELOPMENT OF INSTRUCTIONAL MATERIAL 1:00 - 5:00
17 TECHNIFAX WORKSHOP 8:00 - 5:00	18 TECHNIFAX WORKSHOP 8:00 - 5:00	19 TECHNIFAX WORKSHOP 8:00 - 5:00	20 INDIVIDUAL INDUSTRIAL VISITATIONS 8:00 - 5:00	21 INDIVIDUAL INDUSTRIAL VISITATIONS 8:00 - 5:00
24 REMINGTON TRAINING TYPEWRITERS 8:00 - 5:00	25 REMINGTON TRAINING TYPEWRITERS 8:00 - 5:00	26 REMINGTON TRAINING TYPEWRITERS 8:00 - 5:00	27 REMINGTON TRAINING TYPEWRITERS 8:00 - 5:00	28 REMINGTON TRAINING TYPEWRITERS 8:00 - 5:00
31 REMINGTON TRAINING TYPEWRITERS 8:00 - 5:00	AUGUST 1 REMINGTON TRAINING TYPEWRITERS 8:00 - 5:00	2 REMINGTON TRAINING TYPEWRITERS 8:00 - 5:00	3 REMINGTON TRAINING TYPEWRITERS 8:00 - 5:00	4 REMINGTON TRAINING TYPEWRITERS 8:00 - 5:00

APPENDIX A

Demonstrations of Instructional Materials

Date	Instructional Device	Representatives
Feb. 28	Audio Notebook	Mr. Norman Birdsall
Mar. 2	Audio Notebook	Mr. Richard Murray Electronic Futures, Inc., 2425 Wilson Blvd. Arlington, Virginia
Mar. 14	Video-Tape	Mr. Carter Kaufmann Mr. Charles Faulkner Professional Products, Inc., 4964 Fairmont Avenue Bethesda, Maryland
Mar. 30	Video-Tape	Mr. Edward Tuttle Kunz, Inc., 207-209 E. Patapsco Avenue Baltimore, Maryland
Apr. 4	Overhead Projection Devices and Materials	Mr. Milo Palaggo 3 M Business Products Sales, Inc., 5504 Port Royal Road Springfield, Virginia 22151
Apr. 13	Overhead Projection Devices and Materials	Mr. John A. Gerber 3 M Business Products Sales, Inc., P.O. Box 1009 Hagerstown, Maryland
Apr. 18,20	Percepto Scope	Mr. Frank J. Polich Perceptual Development Laboratories 3500 Cobb Drive Fairfax, Virginia 22030
April 25,27	Autotutor	Mr. Paul Tillman The Welch Scientific Company Box 1276 Fredericksburg, Virginia

APPENDIX B

Sample Inventory

University of Maryland

Department of Industrial Education

Cluster Concept Project

Teacher Experience Inventory

* * * * * * * * * * * * * * * * *

Directions

The following is a listing of the Level I and Level II tasks in the Occupational Cluster you will be teaching. We are interested in determining what additional experience (if any) you will need in order to successfully teach these tasks.

In the space provided, place an "A" if your experience is adequate to teach the task; place a "L" if your experience with the task is limited; and place an "I" if your present experience is inadequate to teach the task.

"A" - Adequate experience

"L" - Limited experience

"I" - Inadequate experience

Carpentry

_____ 1. Mixing mortar for mudsills of a house.

_____ 2. Constructing a saw horse and trestle for use on construction site.

_____ 3. Cutting building material to length for a house.

_____ 4. Erecting girders and columns for a house.

_____ 5. Framing a box sill for a house.

_____ 6. Installing hangers and anchors for floor joists for a house.

_____ 7. Erecting floor and ceiling framing joists for a house.

_____ 8. Installing cross bridging between floor joists for a house.

_____ 9. Installing solid bridging between floor joists for a house.

_____10. Laying subfloors on floor joists for a house.

_____11. Framing bathroom floors for a tile floor in a house.

_____12. Building up corner posts for corner of framing in a house.

_____13. Laying out stud spacing for walls and partition.

_____14. Assembling walls and partitions for a frame house.

_____15. Erecting wall sections for a house.

_____16. Applying lap, plywood, or composition sheathing for a house.

_____17. Installing fire stops along plate in a house.

_____18. Installing staging brackets for house construction.

_____19. Installing single and double post scaffolding for house construction.

_____20. Framing a flat roof for a house.

_____21. Installing gable studs for a house.

_____22. Laying roof decking for a house.

_____23. Applying building paper to sidewall, rough floor or roof deck on a house.